

## CLAIMS

What is claimed is:

1. A coaxial via structure comprising:

a first conductive via;

5 a second conductive via spaced apart from and surrounding a substantial portion of said first conductive via; and

a dielectric material disposed between said first conductive via and said second conductive via.

10 2. The coaxial via structure of claim 1, wherein said second conductive via is in the shape of an open ended cylinder.

3. The coaxial via structure of claim 2, wherein said first and second conductive vias have a common axis.

15 4. A coaxial via structure in an electronic device carrier adapted to connect a first conductive track of a first conductive layer on a surface of a core to another conductive track of another conductive layer on an opposite surface of said core and a third conductive track of a fourth conductive layer, a dielectric layer being disposed between said third and fourth conductive layers, said coaxial via structure comprising:

20 a first conductive via connected to said third and fourth conductive tracks;

a second via having a side wall with a conductive material thereon surrounding a substantial portion of said first conductive via, said conductive material connected to said first and said other conductive tracks; and

5           a dielectric material disposed between said first conductive via and said conductive material on said side wall of said second via, said first and second conductive vias having a common axis, substantially perpendicular to said conductive layers.

10           5. The coaxial via structure of claim 4, wherein said core of said electronic device carrier is disposed between said first and said other conductive layers.

15           6. The coaxial via structure of claim 5 further comprising a fifth conductive track on said third conductive layer, partially surrounding said third conductive track and being substantially aligned with at least one part of said first conductive track and at least a third conductive via connecting said fifth and said first conductive tracks.

20           7. The coaxial via structure of claim 5 further comprising a second conductive layer arranged between said first and third conductive layers, dielectric layers being disposed between said first conductive layer, said second conductive layer and said third conductive layer, respectively, wherein said second conductive layer comprises a second conductive track being substantially aligned with at least one part of said first

conductive track and connected to said first conductive track by at least a fourth conductive via.

8. The coaxial via structure of claim 7, further comprising a sixth conductive track on said third conductive layer partially surrounding said third conductive track and being substantially aligned with at least one part of said second conductive track of said second conductive layer, and a fifth conductive via connecting said sixth conductive track and said second conductive track of said second conductive layer.

9. The coaxial via structure of claim 8, wherein said first conductive layer includes a first supplementary track and said second conductive layer includes a second supplementary conductive track being substantially aligned with at least a part of said first supplementary conductive track and connected to said first supplementary conductive track by at least two supplementary conductive vias.

10. The coaxial via structure of claim 9, wherein said second conductive track at least partially surrounds said second supplementary conductive track.

11. The coaxial via structure of claim 9, wherein said first conductive track at least partially surrounds said first supplementary conductive track.

12. A method for building a coaxial via structure in an electronic device carrier, said method comprising the steps of:

forming a first hole having a side wall in a substrate of said electronic device carrier;

5        plating a conductive material on said side wall of said first hole;

filling said plated first hole with a dielectric material;

10        forming a second hole having a side wall in said dielectric material of said filled plated first hole such that said first and second holes have substantially a common axis, a diameter of said second hole being less than a diameter of said first hole; and

forming a conductive material on said side wall of said second hole.

15        13. The method of claim 12 wherein said step of forming a conductive material on said side wall of said second hole comprises plating.

20        14. The method of claim 12 wherein said step of forming a conductive material on said side wall of said second hole further includes substantially filling said second hole with said conductive material.